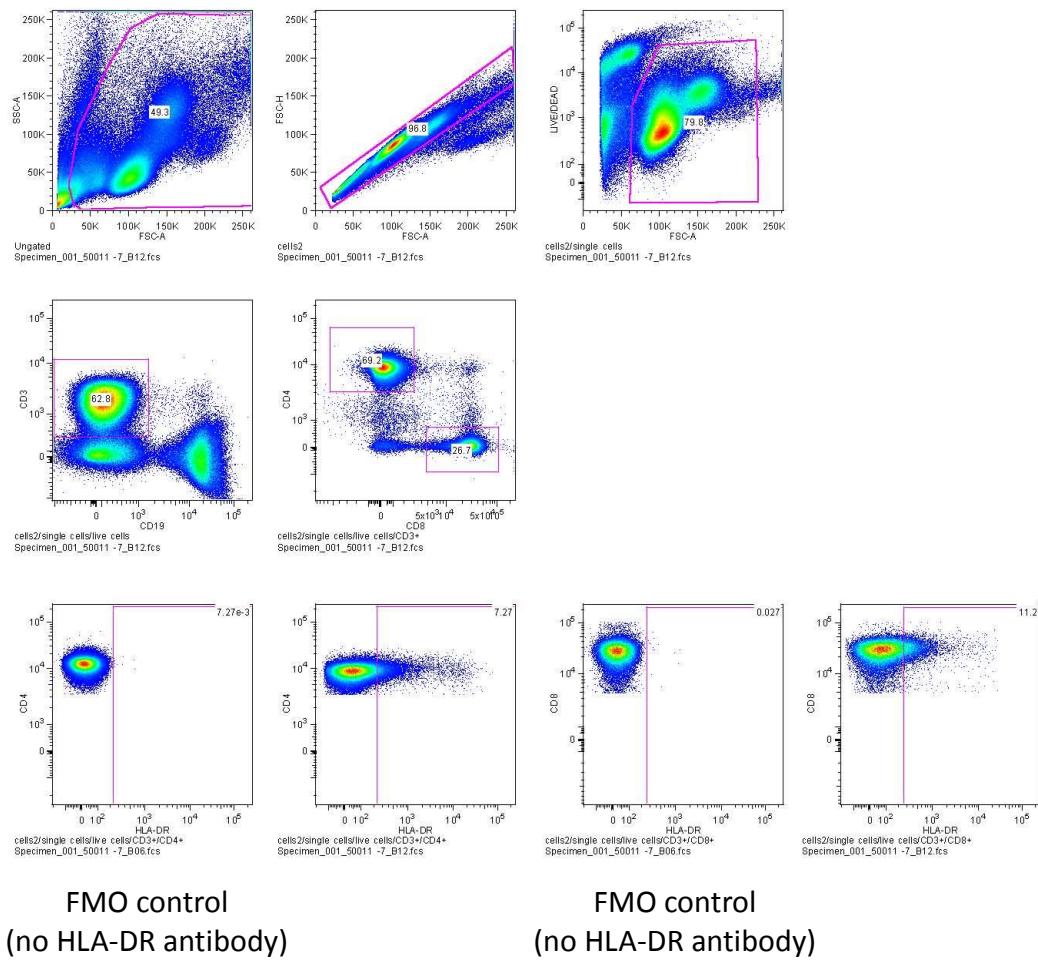


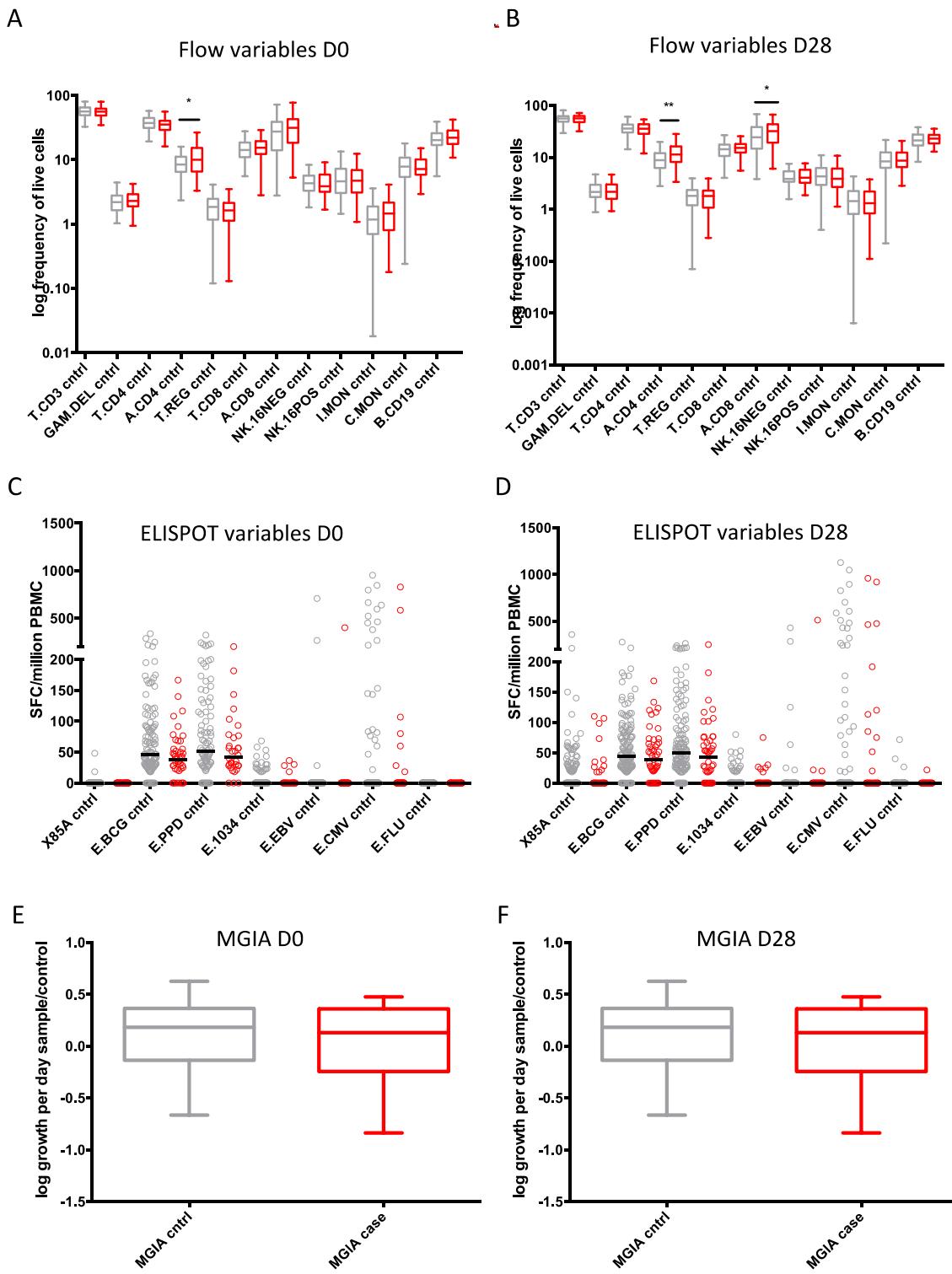
Supplementary Figure 1



Supplementary Figure 1. Gating strategy for HLA-DR+ T-cells.

A gate was drawn around lymphocytes based on cell size (FSC-A/SSC-A) and then a second gate was drawn around single cells (FSC-A/FSC-H). Live singlet cells were then gated as CD3+CD19. CD3+ T-cells were then individually gated as either CD4+ or CD8+. A fluorescence minus one control tube (FMO) containing all stains except HLA-DR was used to determine the position of the HLA-DR+ gate on either CD4+ or CD8+ T-cells.

Supplementary Figure 2



Supplementary Figure 2. Distribution of immune response variables in case and control infants at D0 and D28.

Infants are stratified according to TB case (red) or control (grey) status. Immune responses at D0 (panels A, C, E) or D28 (panels B, D, F) are shown. The log frequency of live cells expressing cell surface phenotype markers is shown. SFC/million PBMC is the number of IFN- γ spot forming cells per million PBMC (only results from infants with a PHA response greater than 1000 SFC/million are shown).

Supplementary Table 1. Spearman rank correlations between activated T cells and CMV response

D0 Correlations					
		HLA-DR+ CD4+	CD4+	CD8+HLADR+	ELISpot CMV
HLA-DR+ CD4+	R value	1.000	-.427	.530	.050
	P value	.	.000	.000	.529
	N	192	192	192	163
CD4+	R value	-.427	1.000	-.391	-.074
	P value	.000	.	.000	.348
	N	192	192	192	163
CD8+HLADR+	R value	.530	-.391	1.000	.301
	P value	.000	.000	.	.000
	N	192	192	192	163
CMV ELISpot	R value	.050	-.074	.301	1.000
	P value	.529	.348	.000	.
	N	163	163	163	180
D28 Correlations					
HLA-DR+ CD4+	R value	1.000	-.280	.556	.116
	P value	.	.000	.000	.115
	N	209	209	209	187
CD4+	R value	-.280	1.000	-.316	-.014
	P value	.000	.	.000	.849
	N	209	209	209	187
CD8+HLADR+	R value	.556	-.316	1.000	.222
	P value	.000	.000	.	.002
	N	209	209	209	187
CMV ELISpot	R value	.116	-.014	.222	1.000
	P value	.115	.849	.002	.
	N	187	187	187	209

Significant correlations highlighted in bold

Supplementary Table 2. Estimated odds ratio for the association between risk of TB disease and HLA-DR+ CD4+ by treatment group MVA85A or Placebo

Estimated odds ratio for the association between risk of TB disease and A.CD4 by treatment group MVA85A or Placebo							
Day	Model	N	Cases	Est OR	LL	UL	P value
D0	CD4+ HLA-DR	186	50	1.12	1.04	1.21	0.002
D0	CD4+ HLA-DR + MVA85A or Placebo	186	50	1.12	1.04	1.21	0.002
D0	CD4+ HLA-DR *MVA85A or placebo^	186	50	1.15	1.02	1.29	0.024
D28	CD4+ HLA-DR	200	52	1.12	1.05	1.19	<0.001
D28	CD4+ HLA-DR + MVA85A or placebo	200	52	1.12	1.05	1.19	<0.001
D28	CD4+ HLA-DR * MVA85A or placebo ^	200	52	1.09	1.01	1.18	0.030

^Est OR is for the control group.

Supplementary Table 3. Estimated Odds-Ratio (OR) of TB disease from a Conditional Logistic Regression of Day 28 immunological variable for MVA85A and placebo arms

Quantitative variable	Est OR* MVA85 A	95% CI MVA85A	P value MVA85 A	Est OR* Placeb o	95% CI Placebo	P value Placeb o
CD3+ T cell	1.001	0.941, 1.065	0.97	0.959	0.895, 1.028	0.236
CD4+ T cell	0.995	0.929, 1.066	0.887	0.936	0.856, 1.023	0.144
CD4+HLADR+ T cell	1.16	0.993, 1.356	0.061	1.075	0.956, 1.21	0.227
CD4+CD25+CD127- T cell	0.905	0.415, 1.971	0.801	0.895	0.392, 2.041	0.792
CD8+ T cell	0.999	0.893, 1.117	0.988	1.017	0.924, 1.12	0.73
HLA-DR+ CD8+ T cell	1.016	0.983, 1.051	0.345	1.008	0.978, 1.04	0.594
CD14+CD16+ monocyte	0.784	0.497, 1.237	0.296	0.939	0.596, 1.48	0.786
CD14+CD16- monocyte	1.002	0.861, 1.167	0.975	1.038	0.896, 1.202	0.621
CD19+ B cell	1.012	0.93, 1.101	0.787	1.057	0.964, 1.159	0.241
BCG MGIA	4.331	0.002, 10654.906	0.713	1.373	0.01, 187.859	0.9
85A ELISpot	0.671	0.286, 1.576	0.36	76.576	0, 1360699283.119	0.61

BCG ELISpot	1.139	0.488, 2.659	0.764	0.574	0.189, 1.738	0.326
PPD ELISpot	0.559	0.212, 1.474	0.24	0.225	0.033, 1.53	0.127
TB10.3/10.4 ELISpot	0.49	0.063, 3.837	0.497	0.47	0.104, 2.117	0.326
EBV ELISpot	1.948	0.377, 10.062	0.426	0.662	0.112, 3.923	0.649
CMV ELISpot	0.844	0.427, 1.671	0.627	1.476	0.598, 3.64	0.398
FLU ELISpot	56.51	0, 311888994.24 6	0.61	0.687	0.351, 1.347	0.275
GAM.DEL (putative)	1.413	0.669, 2.987	0.365	1.128	0.847, 1.502	0.412
NK.16NEG (putative)	1.449	0.904, 2.321	0.123	0.981	0.751, 1.281	0.888
NK.16POS (putative)	0.829	0.624, 1.102	0.197	5.372	0.014, 2069.112	0.58
CD14+CD16+ /CD3+	1.059	0.002, 480.384	0.985	0.139	0, 533725349.394	0.861
CD14+CD16- /CD3+	0	0, 31198.833	0.32	0.516	0.212, 1.256	0.145
Ag85A IgG	0.749	0.25, 2.24	0.605	0.959	0.895, 1.028	0.236

Supplementary Table 4. Conditional Logistic Regression with Z-transformed variables

Estimated Odds-Ratio (OR) of TB disease from a Conditional Logistic Regression of Day 0							
immunological variable							
Quantitative variable	N	Cases	Est OR*	95% CI	P value	FDR value	AUROC
CD3+ T cell	186	50	0.86	0.61, 1.22	0.397	0.69	-
CD4+ T cell	186	50	0.651	0.45, 0.95	0.025	0.18	0.583
CD4+HLADR+ T cell	186	50	1.828	1.25, 2.68	0.002	0.04	0.618
CD4+CD25+CD127- T cell	186	50	0.85	0.59, 1.23	0.385	0.69	-
CD8+ T cell	186	50	1.236	0.93, 1.64	0.142	0.36	-
HLA-DR+ CD8+ T cell	186	50	1.349	1, 1.82	0.05	0.26	-
CD14+CD16+ monocyte	186	50	1.021	0.75, 1.39	0.894	0.89	-
CD14+CD16- monocyte	186	50	1.029	0.73, 1.46	0.873	0.89	-
CD19+ B cell	186	50	1.267	0.93, 1.74	0.141	0.36	-
BCG MGIA	80	30	-	-	-	-	-
85A ELISpot	125	40	0.648	0.012, 35.35	0.832	0.89	-
BCG ELISpot	138	43	0.502	0.29, 0.86	0.013	0.14	0.575
PPD ELISpot	90	32	0.608	0.36, 1.03	0.064	0.27	-
TB10.3/10.4 ELISpot	90	32	0.666	0.38, 1.17	0.154	0.36	-

EBV ELISpot	100	34	0.959	0.73, 1.25	0.758	0.89	-
CMV ELISpot	126	40	0.92	0.61, 1.39	0.69	0.89	-
FLU ELISpot	100	34	5.962	0.001, 35600.91	0.687	0.89	-
GAM.DEL (putative)	186	50	1.418	0.95, 2.12	0.09	0.32	-
NK.16NEG (putative)	186	50	0.728	0.41, 1.31	0.289	0.61	-
NK.16POS (putative)	186	50	0.973	0.72, 1.32	0.857	0.89	-
CD14+CD16+ /CD3+	186	50	1.021	0.76, 1.38	0.892	0.89	-
CD14+CD16- /CD3+	186	50	1.03	0.73, 1.45	0.867	0.89	-
Exploratory Variable							
Ag85A IgG	145	46	0.753	0.54, 1.05	0.095	-	0.563
Estimated Odds-Ratio (OR) of TB disease from a Conditional Logistic Regression of Day 28							
immunological variable							
CD3+ T cell	200	52	0.928	0.65, 1.32	0.681	0.88	-
CD4+ T cell	200	52	0.818	0.58, 1.17	0.265	0.83	0.522
HLA-DR+ CD4+ T cell	200	52	1.795	1.29, 2.49	0	0.00	0.643
CD4+CD25+CD127- T cell	200	52	0.824	0.57, 1.2	0.317	0.83	-
CD8+ T cell	200	52	1.153	0.85, 1.56	0.369	0.86	-
HLA-DR+ CD8+ T cell	200	52	1.398	1.04, 1.87	0.025	0.26	-
CD14+CD16+ monocyte	200	52	0.908	0.67, 1.23	0.533	0.88	-
CD14+CD16-	200	52	0.96	0.71, 1.30	0.794	0.92	-

monocyte							
CD19+ B cell	200	52	1.097	0.79, 1.52	0.574	0.88	-
BCG MGIA	74	29	-	-	-		-
85A ELISpot	165	49	0.852	0.64, 1.14	0.279	0.83	-
BCG ELISpot	165	49	0.826	0.57, 1.19	0.306	0.83	0.573
PPD ELISpot	146	46	0.765	0.54, 1.09	0.142	0.83	-
TB10.3/10.4 ELISpot	146	46	0.975	0.7, 1.36	0.88	0.92	-
EBV ELISpot	155	48	1.063	0.79, 1.43	0.686	0.88	-
CMV ELISpot	163	49	1.005	0.77, 1.32	0.969	0.97	-
FLU ELISpot	154	48	0.947	0.71, 1.26	0.712	0.88	-
GAM.DEL (putative)	200	52	0.976	0.73, 1.3	0.87	0.92	-
NK.16NEG (putative)	200	52	1.352	0.84, 2.17	0.21	0.83	-
NK.16POS (putative)	200	52	0.872	0.62, 1.24	0.442	0.88	-
CD14+CD16+ /CD3+	200	52	0.902	0.66, 1.24	0.524	0.88	-
CD14+CD16- /CD3+	200	52	0.931	0.69, 1.27	0.651	0.88	-
Exploratory Variable							
Ag85A IgG	188	56	0.738	0.54, 1.01	0.057		0.598
NA = model did not converge; results not available *represents the odds ratio for a 1 unit change in the immune response							

Supplementary Table 5. Conditional Logistic Regression based on tertile of immune response

Conditional Logistic Regression based on tertile of immune response											
	D0					D28					
	Range	N	OR	95% CI	p	Range	N	OR	95% CI	p	
HLADR+ CD4+ T-cells											
Low	2.34, 7.19	62	Ref	-	0.26	2.79, 7.31	67	-	-	0.011	
Medium	7.20, 10.53	62	1.28	0.59, 2.80	0.53	7.32, 11.40	67	1.28	0.49, 3.37	0.61	
High	10.54, 26.70	62	1.97	0.86, 4.46	0.11	11.41, 39.90	66	3.16	1.36, 7.37	0.008	
BCG ELISpot											
Low	0.30, 1.50	47	Ref	-	0.081	0.30, 1.45	59	-	-	0.38	
Medium	1.51, 1.81	46	0.93	0.37, 2.36	0.88	1.46, 1.77	51	0.6	0.24, 1.47	0.26	
High	1.82, 2.53	45	0.28	0.09, 0.91	0.034	1.78, 2.49	55	0.61	0.27, 1.37	0.23	
CD4+ T-cells											
Low	0.01, 1.01	48	Ref	-	0.15	0.36, 1.98	63	Ref	-	0.042	
Medium	1.02, 1.98	49	0.68	0.30, 1.53	0.35	1.99, 2.72	62	0.35	0.15, 0.81	0.014	
High	1.99, 3.06	48	0.41	0.17, 1.01	0.051	2.73, 3.22	63	0.66	0.27, 1.63	0.36	
Ag85A-specific IgG											
Low	0.01, 1.01	48	Ref	-	0.031	0.36, 1.98	63	Ref	-	0.026	
Medium	1.02, 1.98	49	0.28	0.098, 0.79	0.016	1.99, 2.72	62	0.73	0.34, 1.54	0.4	
High	1.99, 3.06	48	0.44	0.19, 1.042	0.062	2.73, 3.22	63	0.29	0.12, 0.72	0.007	

Table 6: Assay identification for C-020-485 case-control correlates analysis: Preliminary selection

Study Group / Pilot Study	Sample type	Assay	Stimulation condition	Reliability (externally validated assay or ICC)	Sample available	Detection of antigen specific immune response	Correlation between assays (Spearmans correlation p<0.01)
Group 2	Fresh PBMC	ELISPOT	UNS, BCG, Ag85A peptides	externally validated	No	Yes	ELISPOT/WB-ICS
Group 3	Fresh PBMC	PBMC ICS	UNS, BCG, Ag85A peptides	externally validated	No	Yes	
Group 4	Whole blood	Whole blood ICS	UNS, BCG, Ag85A peptides	externally validated	No	Yes	ELISPOT/WB-ICS
Pilot 1	Frozen PBMC	Assay 1: ELISPOT (2 antigens)	UNS, BCG, Ag85A peptides	passed	Yes	Yes	ELISPOT/ GEX Ag85A peptides
Pilot 1	Frozen PBMC	Assay 2: Illumina HT-12 Gene expression analysis (GEX) (5 conditions)	UNS, BCG, Ag85A peptides	passed	Yes	Yes	ELISPOT/ GEX Ag85A peptides
Pilot 1	Frozen PBMC	Assay 3: Mycobacterial growth inhibition assay (MGIA) (1 mycobacterial strain)	BCG Pasteur	passed	Yes	-	-
Pilot 1	Frozen PBMC	Assay 4: Flow surface staining Live/dead, CD3, CD4, CD8, γδ, CD19, CD14 (6 populations)	UNS	passed	Yes	-	-
Pilot 1	Supernatant from stimulated frozen PBMC	Assay 5: Luminex (42 plex) MGIA supernatants Assay 6: Luminex (42 plex) GEX supernatants	UNS, BCG, Ag85A peptides	Externally validated	Yes	Yes	Some subsets of analytes and GEX/MGIA NB. Supernatants collected from MGIA and GEX experiments
Pilot 2	Frozen PBMC	ELISPOT (duplicate wells) (3 antigens)	UNS, BCG, PPD, Ag85A peptides	passed	Yes	Yes	ELISPOT/ GEX Ag85A peptides/ Ki67 proliferation
Pilot 2	Frozen PBMC	ELISPOT (triplicate wells) (3 antigens)	UNS, BCG, PPD, Ag85A peptides	passed	Yes	Yes	ELISPOT/ GEX Ag85A peptides/ Ki67 proliferation
Pilot 2	Frozen PBMC	Illumina HT-12 Gene expression analysis (GEX) (5 conditions)	UNS, BCG, Ag85A peptides	passed	Yes	Yes	ELISPOT/ GEX Ag85A peptides
Pilot 2	Frozen PBMC	Mycobacterial growth inhibition assay (MGIA) (2 strains of mycobacteria)	BCG Pasteur, MTB H37rv	passed	Yes	-	MGIA and CD14+CD16+ monocytes on cell surface flow
Pilot 2	Frozen PBMC	Flow surface staining Live/dead, CD3,	UNS	passed	Yes	-	MGIA and CD14+CD16+ monocytes on

		CD4, CD8, γδ, CD19, CD14, CD16, CD25, CD127, CTLA4 (90 cell populations)					cell surface flow
Pilot 2	Frozen PBMC	Assay 7: Ki67 proliferation assay (4 parameters – 2 antigens CD4 and CD8)	UNS, PPD, Ag85A peptides	Not done	Yes	Yes	ELISPOT/ Ki67 proliferation
Pilot 3	Frozen PBMC (short rest)	ELISPOT (8 antigens)	UNS, BCG, PPD, Ag85A peptides, Flu+CMV+EBV peptides, tetanus toxoid, TB10.3/4	passed	Yes	Yes	-
Pilot 3	Frozen PBMC (long rest)	ELISPOT (8 antigens)	UNS, BCG, PPD, Ag85A peptides, Flu+CMV+EBV peptides, tetanus toxoid, TB10.3/4	passed	Yes	Yes	-

The maximum volume of blood collected from each infant at each time point was 8ml. PBMC were isolated and cryopreserved in liquid nitrogen in 1-3 separate vials. Based on pilot studies conducted with non-case samples from the TB20 study the median expected recovery of viable cells from 1-2 thawed vials is 17 million (range 2-32 million).

Supplementary Table 7: Assay identification for C-020-485 case-control correlates analysis:
Intermediate selection of key assays/variables

	Assay	Antigen/Cell population/cytokine	Notes
1	MGIA	BCG	Log growth in sample tube/log growth in control tube (possible measure of vaccine response)
2	ELISPOT	85A peptides	SFC/million PBMC (measure of vaccine response)
3	ELISPOT	BCG	SFC/million PBMC (possible measure of vaccine response)
4	ELISPOT	PPD	SFC/million PBMC (possible measure of vaccine response)
5	ELISPOT	10.3/10.4	SFC/million PBMC
6	ELISPOT	CMV	SFC/million PBMC
7	ELISPOT	EBV	SFC/million PBMC
8	ELISPOT	Flu	SFC/million PBMC
9	Flow Cytometry	T cells	% of Live CD3+ lymphocytes
10	Flow Cytometry	CD4+ T cells	% of Live CD3+CD4+CD8- lymphocytes
11	Flow Cytometry	CD8+ T cells	% of Live CD3+CD8+CD4- lymphocytes
12	Flow Cytometry	B cells	% of Live CD3-CD19+ lymphocytes
13	Flow Cytometry	Monocytes	% of Live CD3-HLA-DR+CD14+ CD16-
14	Flow Cytometry	Inflammatory monocytes	% of Live CD3-HLA-DR+CD14+ CD16+
15	Flow Cytometry	Regulatory T cells	% of Live CD3+CD4+CD8- CD25+CD127- lymphocytes
16	Flow Cytometry	Monocytes/lymphocytes	% of Live CD3-HLA-DR+CD14+ CD16- / % of Live CD3+CD4+CD8- lymphocytes
17	Flow Cytometry	Inflammatory monocytes/lymphocytes	% of Live CD3-HLA-DR+CD14+ CD16+ / % of Live CD3+CD4+CD8- lymphocytes
18	Flow Cytometry	other -possible gamma delta T cells	% of Live CD3+CD4-CD8- lymphocytes
19	Flow Cytometry	Other – possible natural killer cells 1	% of Live CD3-CD19-CD14- lymphocytes
20		Other – possible natural killer cells 2	% of Live CD3-CD19-CD14- CD16+lymphocytes
21	Flow Cytometry	Activated CD8+ T cells	% of Live CD3+CD8+HLA-DR+CD4- lymphocytes
22	Flow Cytometry	Activated CD4+ T cells	% of Live CD3+CD8-HLA-DR+CD4+ lymphocytes

Supplementary Table 8: Description of outliers

Day	SUBJID	Variable	Value	assay type	% live cells	Investigation	Retain? yes/no	
0	50242	E.BCG	-0.69315	elispot		viability flow (61% and PH)	no	6 elispot excluded, 5 retained
0	50543	E.BCG	-0.69314	elispot		viability flow (51% and PH)	no	6 flow retained, 0 non-excluded
0	50543	log(E.BCG)	-0.69314	elispot	50.8	PHA<1000	no	
0	50242	log(E.BCG)	-0.69315	elispot	57.4	PHA<500	no	19 outliers
0	50599	log(E.BCG)	-0.69314	elispot	63.7	HIGH BACKGROUND EXCL	no	7 excluded
0	50599	log(E.PPD)	-0.69314	elispot	63.7	HIGH BACKGROUND EXCL	no	
0	50842	E.PPD	-0.69314	elispot		viability flow (62%) and PH	yes	
0	50842	log(E.PPD)	-0.69314	elispot	62.8	ok flow viability	yes	
0	51069	X85A	23.33333	elispot	74.6	ok	yes	
0	53439	X85A	48.33333	elispot	78.6	ok	yes	
0	52569	X85A	55	elispot	84.4	DAY 28 and DAY 7 WRONG	yes	
0	53353	C.MON	-1.427097	flow		ok requestediman to doo	yes	
0	53353	CML	-5.649561	flow		ok requestediman to doo	yes	
0	52891	I.MON	-4.017384	flow		ok requestediman to doo	yes	
0	53353	I.MON	-4.017384	flow		ok requestediman to doo	yes	
0	53353	IML	-8.239827	flow		ok requestediman to doo	yes	
0	52891	log(IML)	-8.228030	flow		ok requestediman to doo	yes	
0	51971	M.BCG	81.80672	MGIA		replicates ok, viability ok	no	
0	51898	log(M.BCG)	-1.80672	MGIA	80.9	batch 10 incorrectlyente	yes	
28	50242	log(E.BCG)	-0.69315	elispot	53.6	PHA<500	no	
28	50344	log(E.BCG)	-0.69314	elispot	61.4	HIGH BACKGROUND EXCL	no	
28	50842	log(E.BCG)	-0.69314	elispot	65.7	batch 10 incorrectlyente	yes	
28	51093	log(E.BCG)	-0.69314	elispot	76.2	ok	yes	
28	52687	X85A	140	elispot	52.3	ok flow viability	yes	
28	51295	X85A	81.66667	elispot	76.3	ok	yes	
28	53735	X85A	96.66667	elispot	78.3	ok	yes	
28	52462	X85A	110	elispot	79.9	ok	yes	
28	51898	X85A	83.33335	elispot	80	ok	yes	
28	51261	X85A	150	elispot	81.1	ok	yes	
28	50263	X85A	106.66667	elispot	81.7	ok	yes	
28	51024	X85A	83.33333	elispot	83.4	ok	yes	
28	50830	X85A	113.3333	elispot	84.9	ok	yes	
28	52044	X85A	356.66667	elispot	85.7	ok	yes	
28	50833	NK.16NEG	37.8	flow	64.2	iman checking machine	no	
28	50110	A.CD4	43	flow	53.8	ok flow viability	yes	
28	51841	A.CD4	33.90001	flow	61.2	ok flow viability	yes	
28	51807	C.MON	29.9	flow	80	ok	yes	
28	51807	CML	0.892537	flow	80	ok	yes	
28	50110	GAM.DEL	7.72	flow	53.8	ok flow viability	yes	
28	50141	GAM.DEL	9.77	flow	73.4	ok	yes	
28	51841	I.MON	10.20002	flow	61.2	ok flow viability	yes	
28	53169	I.MON	7.48	flow	65.2	batch 10 incorrectlyente	yes	
28	51807	I.MON	7.12	flow	80	ok	yes	
28	52998	I.MON	10.5	flow	80.6	ok	yes	
28	51893	I.MON	7.01	flow	84.2	ok	yes	
28	51841	IML	0.211618	flow	61.2	ok flow viability	yes	
28	53169	IML	0.187	flow	65.2	batch 10 incorrectlyente	yes	
28	51807	IML	0.212537	flow	80	ok	yes	
28	52998	IML	0.221519	flow	80.6	ok	yes	
28	51893	IML	0.135067	flow	84.2	ok	yes	
28	52687	NK.16NEG	17.2	flow	52.3	ok flow viability	yes	
28	50110	NK.16NEG	12.3	flow	53.8	ok flow viability	yes	
28	50155	NK.16NEG	15.10001	flow	61.1	ok flow viability	yes	
28	50258	NK.16NEG	12.4	flow	64.3	ok flow viability	yes	
28	50153	NK.16NEG	12.2	flow	65.3	batch 10 incorrectlyente	yes	
28	50190	NK.16NEG	15.1	flow	67.8	ok flow viability	yes	
28	53314	NK.16NEG	16.8	flow	67.8	ok flow viability	yes	
28	30044	NK.16NEG	12.9	flow	71.6	batch 10 incorrectlyente	yes	
28	50251	NK.16NEG	14.5	flow	73.9	batch 10 incorrectlyente	yes	
28	52456	NK.16NEG	20.4	flow	76.4	batch 10 incorrectlyente	yes	
28	51971	NK.16NEG	17.1	flow	76.5	batch 10 incorrectlyente	yes	
28	53747	NK.16NEG	13	flow	77.2	incorrect D number flow	yes	
28	51778	NK.16NEG	13.8	flow	77.5	batch 10 incorrectly NOW	yes	
28	52190	NK.16NEG	23.7	flow	78.1	batch 10 incorrectlyente	yes	
28	51790	NK.16NEG	18.6	flow	78.5	batch 10 incorrectlyente	yes	
28	51832	NK.16NEG	25.5	flow	79	batch 10 incorrectlyente	yes	
28	51898	NK.16NEG	24.9	flow	80	batch 10 incorrectlyente	yes	
28	52743	NK.16NEG	24.7	flow	80	batch 10 incorrectlyente	yes	
28	53153	NK.16NEG	14.1	flow	80.7	batch 10 incorrectlyente	yes	
28	53202	NK.16NEG	15.7	flow	81.5	batch 10 incorrectlyente	yes	
28	53430	NK.16NEG	16	flow	82	batch 10 incorrectlyente	yes	
28	51116	NK.16NEG	21.9	flow	82.7	batch 10 incorrectlyente	yes	
28	53710	NK.16NEG	16.4	flow	84.4	batch 10 incorrectlyente	yes	
28	50009	NK.16POS	21.3	flow	77.8	ok	yes	
28	50208	T.LIVE	50	flow	50	ok flow viability	yes	
28	52687	T.LIVE	52.3	flow	52.3	ok flow viability	yes	
28	50349	T.LIVE	52.9	flow	52.9	ok flow viability	yes	
28	50242	T.LIVE	53.6	flow	53.6	ok flow viability	yes	
28	50110	T.LIVE	53.8	flow	53.8	ok flow viability	yes	

